



160A RANGE THYRISTOR POWER REGULATORS

**160HAC
SERIES**

X10252

INTRODUCTION & FEATURES

The HAC range of thyristor stacks is available for single and three phase 240/415V applications (other voltages can be accommodated). They control loads up to 160A, with a number of control options. They are assembled to suit the final load, with options of phase-angle, burst-firing (3 or 2/3rds phase-control) or a combination of both burst firing and phase angle (typically, using the FC36M). All standard HAC thyristor stacks are fan cooled and fitted with at least one thermal trip for added safety of overheating.

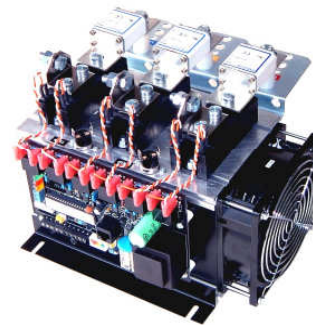
APPLICATIONS

Suitable for heaters, ovens, dryers, air temperature, hot plates, duct heating and ventilation. SCR solid state phase angle power handing gives smooth proportional control of all types of industrial processes, e.g. furnaces, electroplating, controlled rectifiers, transformers, motors.

ADDITIONAL FEATURES

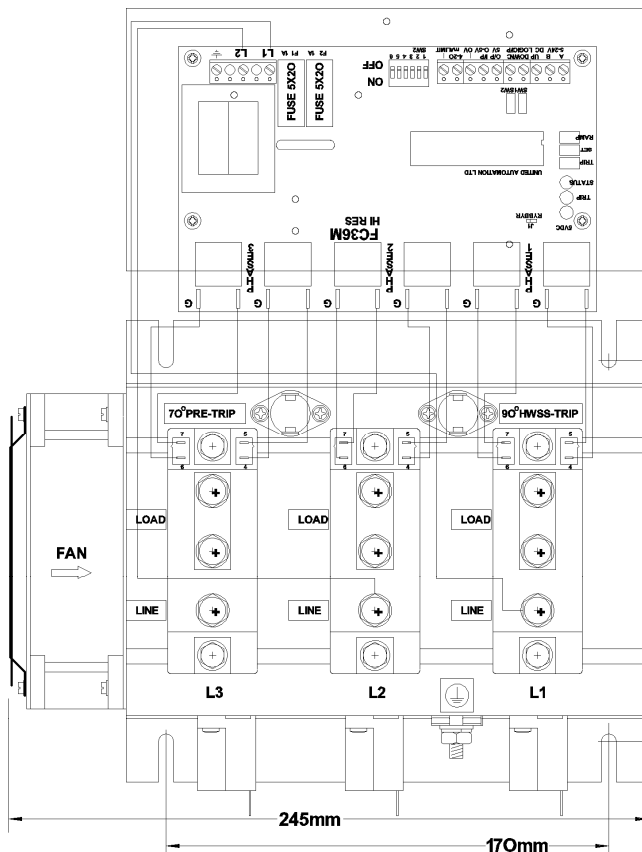
- Control signal options:
 - Manual (potentiometer), current signal, voltage signal or logic input.
- For use with resistive or inductive loads
- Fan guard fitted as standard
- Fan cooled – optional fan supply voltages
- Thermal cut-out trips (typically 70 to 100°C)
- Optional Firing Circuits (FC36M or BM-series)
- Optional HS Fusing
- Optional Snubbers fitted for inductive loads

Unit shown fitted with optional HS fuses



INSTALLATION, CONNECTIONS AND DIMENSIONS

(unit shown has FC36M, 2-off trips, 3-off R-C snubber modules and no HS Fuses)

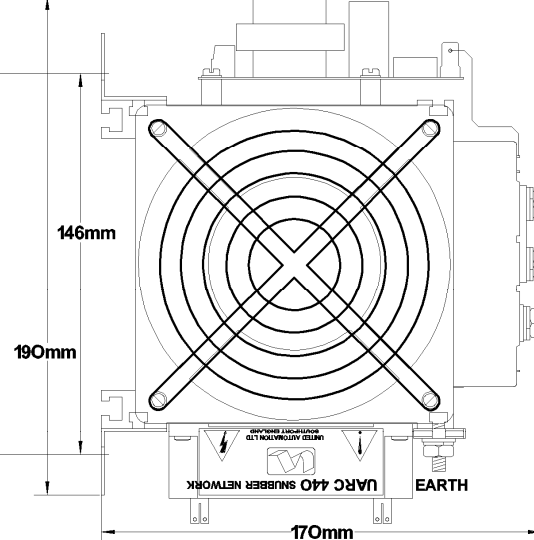


RECOMMENDATIONS

1. To maximise airflow the heatsink should be mounted UPRIGHT with the fan at the bottom.
2. If unit is fitted into an enclosure, it is recommended to have louvres to aid airflow.
3. If firing circuit (including FC36M) is used in PHASE-ANGLE mode, a 3-phase RFI filter is required.

WARNING - LIVE TERMINALS

Isolate supply before commencing any service work.



PLEASE ENSURE CORRECT
CLOCKWISE PHASE ROTATION
L1=BROWN L2=BLACK

INSTALLATION

COOLING REQUIREMENTS

Heatsink rating for standard stack assembly is calculated when fan is cooled by a fan with 95CFM throughput. If mounted in an enclosure or cabinet, adequate ventilation and/or forced air-cooling should be accommodated. When thermal trips are fitted we recommend they are wired in series with the control signal, to switch off the thyristors in an over temperature situation.

TERMINAL TORQUE SETTINGS

M6 size terminals : 4.5 – 5.5 Nm
M8 size terminals : 12 – 15 Nm

RoHS Compliant

LOAD CONSIDERATIONS

It is advisable to detail the type of load when ordering. For industrial reliability, based on long experience, the HAC range has considerable current overload capacity on the power devices used. The rated currents are maximum continuous RMS values for use within the temperature guidelines as shown in the table below.

Heating loads such as molybdenum, platinum and tungsten exhibit a very low resistance when cold. This results in a high initial current flow of up to 10 times the rated current until the load becomes hot.

Transformers and other inductive loads can have high starting currents; therefore, phase angle control with soft start is best suited for this application.

Please advise the type of load to be used, so that we can supply the correct unit.

| Maximum Heatsink Ambient Temperature (°C) | Maximum RMS Line Current (A) (3 Phase Supply) |
|---|---|
| 30 | 200 |
| 40 | 200 |
| 50 | 200 |
| 60 | 150 |

FUSING

It is recommended that semiconductor, fast acting type fuses or circuit breakers (Semiconductor-MCB) be used for protection. On initial operation some loads may need an increased Factor of Safety (F of S) for Unit and/or Device protection. See SRA Data sheet for further information.

CE MARKING

This family carries a "CE" marking. For more information see recommendations section and contact our sales desk.

RECOMMENDATIONS

Other documents, which may be appropriate for your application, are available on request.

| CODE | IDENTITY | DESCRIPTION |
|--------|----------|---|
| X10327 | 3-RFI | 3 Phase Filter recommendations: Addressing EMC Directive |
| X10213 | ITA | Interaction: Uses for phase angle and for burst fire control. |
| X10255 | SRA | Safety requirements: Addressing the Low Voltage Directive (LVD) including: Thermal data/cooling, "Live" parts warning, Earth requirements and Fusing recommendations. |
| X10322 | ASC | AC Stack Specification and Application Datasheet |
| P01.1 | COS | UAL Conditions of sale. |

NOTE: It is recommended that installation and maintenance of this equipment should be done with reference to the current edition of the I.E.T. (formally I.E.E.) regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding installation and safety of electrical equipment. Specific installers should refer to local and national regulations.

To order see Stack Specification and Application circuit X10322 Datasheet



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